Supreme Court, U.S.
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CASE NUMBER _____

IN THE SUPREME COURT

OF THE

UNITED STATES OF AMERICA

FALL TERM

SHARON EMERSON,

Petitioner

VS.

THE STATE OF TEXAS,

Respondent

PETITION FOR WRIT OF CERTIORARI TO THE

COURT OF CRIMINAL APPEALS OF TEXAS

"PETITION FOR WRIT OF CERTIORARI"

NATHANIEL G. RHODES

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QUESTION PRESENTED FOR REVIEW

May an appellate Court take judicial notice of the reliability of novel scientific evidence when no evidence whatsoever was adduced at the trial court regarding the reliability of that novel scientific evidence?

LIST OF PARTIES

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2. **SHARON LEE EMERSON**, Appellant, 4530 Hamlin, Corpus Christi, Texas 78411.

3. **CARL E. LEWIS**, Nueces County Attorney, 901 Leopard, Room 206, Corpus Christi, Texas 78401.

4. **DAN MORALES**, Attorney General of Texas, Box 12548, Austin, Texas 78711.

TABLE OF CONTENTS

	Page
Statement of Jurisdiction	1
Regulations and Constitutional Provisions	1
Statement of the Case	2
Reasons For Allowance of Writ	10
Appendix	11

TABLE OF AUTHORITIES

	Page
Rule 702 - Federal Rules of Evidence	1
Daubert vs. Merrell Dow Pharmaceuticals 113 S.Ct. 2786 (1993)	8
Frye vs. U.S. 54 App.D.C. 46, 293 F 1013 (1923)	8

STATEMENT OF JURISDICTION

The opinion of the Court of Criminal Appeals was delivered on April 13, 1994. The Motion For Rehearing was denied on May 4, 1994.

The mandate has been stayed until August 18, 1994.

The statutory provision believed to confer jurisdiction to review the judgment by writ of certiorari is 28 USCA § 1257.

REGULATIONS AND CONSTITUTIONAL PROVISIONS

The constitutional provisions involved in the case are several.

Amendment V - Due Process clause.

Amendment VI - Right to confront witnesses against him; Assistance of Counsel; Right To Trial by Jury.

Rule 702 - Federal Rules of Evidence . If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training or education may testify there to in the

form of an opinion or otherwise.

STATEMENT OF THE CASE

At the trial court the following testimony was elicited.

Petitioner was involved in an automobile accident. When officer Trevino arrived at the scene he administered several field sobriety tests. He asked her to do the one-leg stand, the heel-to-toe walk, the ABC's and the horizontal gaze nystagmus test (HGN). He testified that she did not perform the first three correctly and that her eyes jerked on the HGN test which indicated intoxication. Evidence was presented by Petitioner's testimony that she had hit her head on the windshield (See Defendant's Exhibits 1-4) and that she probably suffered a concussion. The officer testified that she did seem somewhat in a daze and repeated herself many times (SF 36-45).

Petitioner testified that she hit her head on the windshield and that she did not remember much of anything after the wreck until she was sitting at the police station

about an hour after the wreck. There is a videotape, the original of which has been made part of the transcript (SX-1), which shows Petitioner at the county jail. Petitioner would submit that she appears sober in the videotape.

The reason that the facts mentioned are important in this case is that Petitioner's defense was that she sustained a concussion and that while she may have appeared intoxicated at the scene of the wreck, those signs were the result of the concussion. All of the tests administered (heel-toe, one-leg stand, finger touch, and even the ABC's) would have been as affected by a concussion as by intoxication. The videotape supported Petitioner's sobriety. Therefore the key test would have been the HGN test. Officer Trevino testified at length over Petitioner's running objection (SF Vol. III, p. 18-20) about the HGN test and what it meant (SF Vol. III, pgs. 18-23, 38-40). Note that Petitioner had also filed a Motion In Limine (T.12) regarding the HGN test. This was denied without a hearing. Note also that Trevino stated (SF Vol. III, pg. 18) that "The HGN is a test

that regardless of how good of a drinker that person is he cannot do anything to prevent the clues that I am looking for" and at pg. 19 when the prosecutor says "Let's backtrack her a minute. On the HGN you can't do anything to prevent the eye movement." And at pg. 22 "At this point if somebody is intoxicated whenever you point the pen this way her eyes or his eyes are going to start jerking."

In Texas there are intermediate Courts of Appeal. The intermediate Court rejected Petitioner's appeal because they said the policeman had the right to testify as an expert.

The Court of Criminal Appeals (the Court of last resort in criminal matters in Texas) rejected the reasoning of the intermediate court and agreed with Petitioner that the policeman was not an expert who could testify regarding the reliability of the HGN test. The Court went on to say that in order for such evidence to be admissible it had to satisfy three criteria.

1) The underlying scientific theory must be valid;

2) The technique applying the theory must be valid; and

3) The technique must have been applied properly on the occasion in question.

The third prong of the test may be supplied by the policeman giving the test. The Court said the policeman could not supply the testimony on the first two.

It is at this point that the Court decides that the Court itself may supply the first two criteria which go to the tests' reliability. The Court claims it can take judicial notice of the reliability of the HGN test and it is at this point that the federal questions sought to be reviewed are raised for the first time.

The Court claims that it can take judicial notice of any scientific fact which "is capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned." This may be true of a scientific fact. But how can the Court say first that we are dealing with "novel scientific evidence," and in its next breath claim

judicial notice of that same evidence as a scientific fact?

This absurdity continues.

In the next section of the opinion the Court proceeds to inform us of their source materials and the conclusions drawn therefrom. Their sources are shown in the opinion.

Some of the conclusions drawn by the Court are:

1. Brain damage and medical disorders can lead to an incorrect determination. (Petitioner probably had a concussion)

2. The accuracy of the HGN test has been estimated at various levels depending on testing conditions and ability of those conducting the test.

3. A properly trained police officer with proper conditions is only able to accurately classify 77% of his test subjects.

Their final conclusion is that the test is sufficiently reliable under Rule 702.

It is to bad that Petitioner did not have one of the majority testifying at the trial. The conclusions reached by

the majority would have actually been good for the defense because, as stated earlier, the policeman's testimony left the impression that the test was foolproof. But since he knew nothing of the scientific theory, he could not even be cross-examined regarding the effect of a concussion, and his testimony was in fact untrue because the test, even under optimum conditions, is only accurate 77% of the time!

This question necessarily involves Rule 702 of the Texas Rules of Criminal Evidence which is identical to the Federal Rule of Evidence 702. But it goes much further than that.

Petitioner was not only deprived of her right to cross-examine and to present contrary evidence regarding the test, the trial jury was left with the false impression that the test was virtually fool proof which according to the Court of Criminal Appeals is not true.

A substantial federal question is at stake. Petitioner was deprived of due process, her right to cross-examine witnesses, her right to counsel, and in no small degree she

was convicted on false evidence.

The case of Daubert vs. Merrell Dow Pharmaceuticals 113 S.Ct.. 2786 (1993) actually deals with the criteria for admissibility of novel scientific evidence - not the taking of judicial notice by an Appellate Court of novel scientific evidence. But it does provide ample logic and reason in the same area of inquiry.

The Daubert case repeatedly says that the trial court is the place and the time to introduce evidence of the reliability of scientific evidence.

The first part of the opinion recites the facts of the case and the history of scientific evidence since Frye vs. U.S. 54 App.D.C. 46, 293 F.1013 (1923). But starting at page 2794 and continuing on every page thereafter, this Court writes that these issues are to be presented at the trial court.

"The Rules were designed to depend primarily upon lawyer-adversaries and sensible triers of fact to evaluate conflicts." (p. 2794)

"The trial judge must insure that any and all scientific testimony or evidence admitted is not only relevant, but reliable," and "Rule 702 requires that the evidence assist the trier of fact." (p. 2795)

"Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset..." (p. 2796)

The trial "court ordinarily should consider the known or potential rate of error," and "a judge assessing a proffer of expert scientific testimony under rule 702..." (p.2797).

"Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence" (p. 2798). These, of course, are done in the trial court.

"The Rule of Evidence - especially Rule 702 - assign to the trial judge the task of ensuring that an expert's testimony rests on a reliable foundation and is relevant to the task at hand." (p. 2799)

And more closely in point "...where the ultimate legal question depends on an appreciation of one or more bodies of knowledge not judicially noticeable." (p. 2799)

Over and over this Court says that this issue should have been presented in the trial court.

This case is a huge expansion of the doctrine of judicial notice and violates the basic principles of a fair trial and due process of law. It is an important case which needs to be reversed by this Court before it's precedent is followed in Texas and other States.

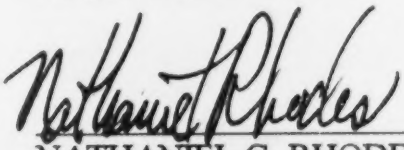
REASONS FOR ALLOWANCE OF WRIT

A State Court of last resort has decided an important question of federal law in a way that conflicts with applicable decisions of this Court.

As has been previously discussed the Court of Criminal Appeals of Texas departed from long standing rules of law regarding judicial notice. In so doing that Court denied Petitioner due process of law, her right to

confrontation of witnesses, her right to a jury trial, and her right to counsel.

Respectfully submitted,



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APPENDIX

CASE NUMBER _____

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FALL TERM

SHARON EMERSON,

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PETITION FOR WRIT OF CERTIORARI TO THE

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NUMBER 13-92-038-CR

COURT OF APPEALS

THIRTEENTH JUDICIAL DISTRICT OF TEXAS

CORPUS CHRISTI

* * * * * * * * * * * * * *

SHARON LEE EMERSON,
Appellant,

v.

THE STATE OF TEXAS, Appellee.

* * * * * * * * * * * * * *

On Appeal from the County Court at Law No. 1
of Nueces County, Texas

* * * * * * * * * * * * * *

Before Paul W. Nye, C.J., Noah Kennedy and
Gilberto Hinojosa, J.J.

* * * * * * * * * * * * * *

OPINION

A jury found appellant, Sharon Lee Emerson, guilty of the offense of driving while intoxicated, and the trial court assessed punishment at ninety days in jail, plus a $500 fine. Imposition of the jail sentence was suspended for two years. By a single point of error, appellant complains that the trial court erred in allowing testimony regarding the horizontal gaze nystagmus test as an indicator of intoxication. We affirm.

The State's evidence showed that before midnight on December 15, 1990, Officer Trevino came upon an automobile collision at the intersection of Doddrige and Alameda. At the scene, he saw an ambulance and two wrecked vehicles. Appellant was the driver of one of the cars involved in the collision. When he approached the ambulance, he noticed a

very strong odor of an intoxicating beverage and saw that the medical attendants were looking at appellant inside the ambulance. The medical attendants released appellant at the scene. Appellant kept telling Trevino that she was fine and that she just wanted to go home. However, Trevino noticed that her breath emitted an intoxicating odor, and he also noticed a strong smell of an intoxicating beverage coming out of her car. Another officer at the scene also detected alcohol coming from appellant's breath. Inside of her car, Trevino saw a large glass. The glass had residue left inside which smelled strongly of alcohol. Further, her car's floorboard were all wet and smelled of an intoxicating beverage.

At the collision scene, Trevino asked appellant to perform some field-sobriety tests, including the horizontal gaze nystagmus test (HGN test), the walk-

and-turn, and the one-legged stand. He also asked appellant to count with her fingers and say the ABC's. Appellant correctly performed the finger-count test, but she failed the one-legged stand test. When she recited the ABC's, she started at "A" and went to "G." She jumped to "Q." Then, she went back to "H" and continued correctly. Trevino had to explain the walk-and-turn test to her three times before she understood it. When she tried to do the test, she was not able to stay in the "stand position." She had to keep her legs apart in order to maintain her balance and did not properly complete the test.

Trevino explained that when a driver takes the HGN test, he is required to follow the path of a moving object with his eyes while keeping his head and neck still. He also stated that the eyes instinctively look in the direction a person is facing. Forcing the driver to

keep his head and neck still exploits the eyes' instinctive habit of returning to the fact-front position. He stated that an intoxicated person's eyes will jerk very drastically in making these movements. He tested appellant in the customary fashion, watching for smooth pursuit of the moving object, especially at forty-five degrees and at maximum deviation. Appellant's eyes showed the distinct, tell-tale jerks which indicated the loss of muscle control accompanying intoxication. After conducting these tests, Trevino decided to arrest appellant for driving while intoxicated. Trevino testified that he did not base appellant's alleged intoxication solely on the HGN test.

The defense elicited from Trevino that he HGN test was not one-hundred percent accurate and that he had never talked to a person with a concussion. Appellant testified that during the collision, she had hit

her head on the windshield and had cut her forehead. She did not really recall the collision, and she barely recalled doing the field-sobriety tests. Appellant admitted to drinking wine prior to the collision, but she denied being intoxicated.

By her sole point of error, appellant complains that the trial court erred in allowing testimony on the HGN test as an indicator of intoxication. During trial, Officer Trevino testified that he had worked as a Bexar County sheriff's officer about one year and as a Corpus Christi police officer about two and one-half years. He had been trained in the detection of intoxicated persons at the Bexar County Sheriff's Officer school, the Corpus Christi Police Academy, and afterwards, he received three days of advanced training at a state-approved school with the Bexar County Sheriff's Office. There, he received training in HGN testing and learned

that this test was one of the best field-sobriety tests. Trevino testified that he was certified in this advanced training.

When the State's attorney asked Trevino to describe what the HGN test was, defense counsel objected, arguing that Trevino did not have the medical background and expertise to testify about what the eye movements meant and what the results might have meant. The trial court overruled the objection.

The special knowledge which qualifies a witness to give an expert opinion may be derived from specialized education, practical experience, or both. *See Holloway v. State*, 613 S.W.2d 497, 501 (Tex.Crim.App. 1981). The trial court has discretion to determine whether a witness is qualified as an expert. *Acosta v. State*, 752 S.W.2d 706, 710 (Tex.App.-Corpus Christi 1988, pet. ref'd). Officer Trevino

testified about his advanced training concerning the HGN test. We hold that the trial court did not abuse its discretion by allowing Trevino to testify concerning the HGN test as an indicator of intoxication.

We note that other Texas courts have considered and rejected similar challenges to the admission of horizontal-gaze-nystagmus testimony. *See Finley v. State*, 809 S.W.2d 909, 914 (Tex.App.-Houston [14th Dist.] 1991, pet. ref'd); *Lancaster v. State*, 772 S.W.2d 137, 138-39 (Tex.App.-Tyler 1988, pet. ref'd).

We overrule appellant's point of error and affirm the trial court's judgment.

PAUL W. NYE
Chief Justice

Opinion ordered published.
Tex. R. App. P. 90.
Opinion delivered and filed this
the 14th day of January, 1993.

NUMBER 204-93

IN THE

COURT OF CRIMINAL APPEALS

AUSTIN, TEXAS

* * * * * * * * * * *

SHARON LEE EMERSON,

Appellant

vs.

THE STATE OF TEXAS,

Appellee

* * * * * * * * * * *

On Appeal from the Thirteenth Court of Appeals
Corpus Christi

NO. 0204-93

SHARON LEE EMERSON	§	
Appellant	§	**Appellant's Petition**
	§	**for Discretionary**
	§	**Review from the**
V.	§	**Thirteenth Court of**
	§	**Appeals**
	§	
THE STATE OF TEXAS,	§	**[Nueces County]**
Appellee	§	

OPINION ON APPELLANT'S PETITION FOR DISCRETIONARY REVIEW

A jury found appellant, Sharon Lee Emerson, guilty of the misdemeanor offense of driving while intoxicated. See Tex. Rev. Civ. Stat. art. 6701l-1(b). The trial judge assessed punishment at 90 days confinement in the county jail, probated for two years, and a $500 fine. The Thirteenth Court of Appeals affirmed appellant's conviction. Emerson v. State, 846 S.W.2d 531 (Tex.App.-Corpus Christi 1993). We granted appellant's petition for discretionary review,

pursuant to Texas Rules of Appellate Procedure 200(c)(2), to determine whether the court of appeals erred in holding that the trial court did not abuse its discretion by admitting results of the horizontal gaze nystagmus (HGN) test. We will affirm.

The relevant facts are not in dispute. Shortly before midnight on December 15, 1990, Corpus Christi police officer Arturo Trevino arrived at the scene of an automobile accident, where he observed an ambulance and two wrecked vehicles. Trevino noticed "a very strong odor of an intoxicating beverage" and ascertained that appellant was the driver of one of the vehicles involved in the collision. Trevino also noticed that appellant her vehicle both smelled of alcohol. Upon inspecting appellant's vehicle, Trevino discovered an empty glass containing alcoholic residue. He also

noticed that the floorboards were wet and smelled of alcohol.

Trevino asked appellant to perform a number of sobriety tests at the accident scene. Appellant consented. Trevino first asked appellant to recite the alphabet. Appellant began with the letter "A," jumped to "G" and then "Q," then went back to "H," and thereafter continued correctly. Trevino next asked appellant to count her fingers out loud, which she did correctly.

Trevino then administered the HGN test. Trevino testified at trial that appellant showed "all six clues" on the HGN test. Trevino also asked appellant to perform the "one-leg stand" and "walk and turn" tests, both of which she attempted but did not perform correctly. Based upon his observations at the accident scene and appellant's performance on the various field

sobriety tests, Trevino concluded that appellant was intoxicated.

At trial, Trevino described, both verbally and through visual demonstration, how he administers the HGN test in the field. He described how he moves an object horizontally in front of a suspect's eyes while the suspect attempts to follow the object without moving her head. Trevino explained that he looks for a distinct "jerking movement" in the suspect's eyes as she attempts to focus on the moving object. Trevino further explained that the "clues" for which he looks are: 1) the inability of the suspect to follow the object smoothly with her eyes; 2) a pronounced "jerking" of the suspect's eyeball when the object is moved to the extreme corner of the suspect's vision; and 3) an initial "jerking" of the suspect's eyeball at angle of vision of less than 45 degrees. Trevino stated that he examines

each of the suspect's eyes, for a possible total of six clues in all.

Trevino testified that he had been a police officer with the Corpus Christi Police Department for two and a half years and had previously been with the Bexar County Sheriff's Department for approximately one year. He received training in the detection of intoxicated persons both in Bexar County and at the Corpus Christi Police Academy. He received further training at a three-day "state school" in Bexar County. At this "state school," Trevino was introduced to a battery of field sobriety tests advocated by the National Highway Traffic Department of Transportation. He learned how to administer the HGN test as part of this training. Trevino testified that he had been certified by the State of Texas to administer the HGN test, in addition to the other tests that comprise the three-test

battery. Nothing in the record indicates that Trevino had received medical or scientific training in the effects of alcohol on human eye movement.

Appellant testified that she hit her head on her car windshield as a result of the collision. Appellant also testified that she consumed wine prior to the accident. Appellant stated that she did not remember clearly much of what occurred on the night of the collision.

The Corpus Christi Court of Appeals held that the trial court did not abuse its discretion by allowing Trevino to testify as an expert concerning the HGN test. The court of appeals cited Finley v. State, 809 S.W.2d 909 (Tex.App.-Houston [14th Dist.] 1981), and Lancaster v. State, 772 S.W.2d 137 (Tex.App,.-Tyler 1988) in support of its holding. The courts of appeals in Finley and Lancaster held that testimony by a police

officer concerning a defendant's performance on the HGN test is admissible as lay opinion testimony on the issue of whether a defendant is intoxicated. Finley at 914; Lancaster at 138-39.

Appellant now argues that the court of appeals erred in holding that the results of the HGN test were admissible at her trial. Appellant makes two arguments. First, appellant argues that the HGN test is a "scientific" test, similar to a breathalyzer test, and that the HGN test results should not have been admitted because Officer Trevino was not qualified as a scientific expert. Second, appellant argues that the trial court erred in admitting the HGN evidence since the court failed to determine the reliability of the HGN test pursuant to Kelly v. State, 824 S.W.2d 568 (Tex.Crim.App. 1992).

The State makes two arguments in response. First, the State argues that Trevino's testimony concerning the HGN test was admitted properly since it was merely "opinion testimony," in that Trevino used the HGN test results merely to support his "opinion" that appellant was intoxicated. Second, the State argues that Trevino was qualified as an expert to testify concerning the HGN results, since he was trained and certified by the State of Texas to administer the test.

The State Prosecuting Attorney argues that it is unnecessary for a law enforcement officer to be qualified as a "scientific" expert if the subject matter of the officer's testimony is not "scientific" but merely "specialized" in nature. According to the State Prosecuting Attorney, Texas Rules of Criminal Evidence 702 contemplates different standards of scrutiny for qualification of experts for purposes of

testimony on "scientific" and "specialized" topics. The State Prosecuting Attorney argues that, if a trained and experienced police officer testifies as to the results of an HGN test "merely to corroborate or explain the basis of his opinion that the defendant was intoxicated," the officer's testimony is of a "specialized" nature. If, however, the officer testified as to the test subject's exact blood alcohol content (BAC) based on the HGN test results, the State Prosecuting Attorney argues, then the officer's testimony is "scientific." The important consequence of the "scientific" versus "specialized" distinction, according to the State Prosecuting Attorney, is that, if the HGN evidence is offered in the former context, the proponent of the HGN evidence should demonstrate both: "1) . . . the scientific validity of estimating BAC based upon HGN test results, and 2) . . . that the officer is qualified to

make such a correlation." If, instead, the HGN evidence is offered as "specialized" testimony, the State Prosecuting Attorney argues, then the proponent of the HGN evidence need only show that "the officer was . . . competent to administer and interpret the test . . .."

I. Novel Scientific Evidence

We will proceed with an analysis of the issues and arguments presented. Due to the nature of the HGN test, we disagree with the State's assertion that HGN test results should be admissible as mere opinion testimony of a police officer. We have held previously that lay opinion testimony by a police officer generally is admissible to prove a defendant's intoxication. Vaughn v. State, 493 S.W.2d 524, 525 (Tex.Crim.App. 1972).

However, the HGN test is based on a scientific theory. We have not determined whether that theory or the technique employed in the HGN test is reliable. We will, therefore, consider testimony concerning the HGN test as novel scientific evidence, just as we considered DNA evidence in Kelly v. State, 824 S.W.2d 568 (Tex.Crim.App. 1992).

The admissibility of novel scientific evidence is governed by Texas Rule of Criminal Evidence 702, which addresses the admissibility of expert testimony. Rule 702 states:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training,or education, may testify thereto in the form of an opinion or otherwise.

The threshold determination in an inquiry into the admissibility of expert testimony under Rule 702 is

whether such testimony is helpful to the trier of fact. Pierce v. State, 777 S.W.2d 399, 414 (Tex.Crim.App. 1989). For such testimony to be helpful, the basis of the testimony must be reliable. Kelly v. State, 824 S.W.2d at 572. If novel scientific evidence is found to be reliable, it may still be determined unhelpful for some other reason. Id. The evidence may be unhelpful, even though reliable, if its probative value is substantially outweighed by, e.g., the risk of unfair prejudice, confusion of the issues, misleading the jury, undue delay, or the presentation of cumulative evidence. Id.; see also Tex.R.Crim.Evid. 403.

To be considered reliable, evidence based on a scientific theory must satisfy three criteria: 1) the underlying scientific theory must be valid; 2) the technique applying the theory must be valid; and 3) the technique must have been applied properly on the

occasion in question. Id. at 573. We have recognized the following non-exclusive list of factors which could affect a court's determination of reliability: 1) the extent to which the underlying scientific theory and technique are accepted as valid by the relevant scientific community, if such community can be ascertained; 2) the existence of literature supporting or rejecting the underlying scientific theory and technique; 3) the clarity with which the underlying scientific theory and technique can be explained to the court; 4) the potential rate of error of the technique; 5) the availability of other experts to test and evaluate the technique; 6) the qualifications of the expert(s) testifying; and 7) the experience and skill of the person(s) who applied the technique on the occasion in question. Id.

Testimony concerning the HGN test, though not as complex as testimony concerning breathalyzer or DNA testing, is nevertheless scientific evidence, since it is based on a scientific theory, that alcohol affects human eye movement. The HGN test therefore must satisfy the three requirements set forth in Kelly in order to be admissible under Rule 702.

In order for testimony concerning the results of the HGN test to be admissible, it must first be shown, pursuant to Kelly, that the theory underlying the HGN test and the technique employed in its administration are both reliable. The State's argument that testimony concerning the HGN test may be admitted as evidence of a "specialized," as opposed to a "scientific," nature under Rule 702 overlooks the need for proof of the reliability of the test.

II. Reliability of HGN Test

(a) Judicial Notice

We now inquire into the reliability of the HGN test, both as to the underlying scientific theory and technique. In Kelly, the trial court conducted a pretrial hearing to determine whether the DNA evidence was admissible under Rule 702. Kelly, 824 S.W.2d at 569-71. We concluded in Kelly that the trial court's decision to admit the DNA evidence was reasonable under Rule 702, given the evidence presented at the pretrial hearing. Id. at 574. In the instant case, however, the trial court made no such inquiry concerning the admissibility of the HGN evidence pursuant to Rule 702, either before or during appellant's trial. Therefore, we now inquire into the reliability of the HGN test pursuant to the doctrine of judicial notice. See Grice v. State, 151 S.W.2d 211 (Tex.Crim.App. 1941); see also

P. Giannelli & E. Imwinkelried, Scientific Evidence §1-2 (1993); J. Weinstein & M. Berger, Weinstein's Evidence ¶200[05] (1993); J. Strong, ed., McCormick on Evidence §330 (1992).

We are authorized to take judicial notice of any scientific fact which "is capable of accurate and ready determination by resort to sources whose accuracy cannot reasonably be questioned." McCormick on Evidence at §330. The concept of judicial notice extends to scientific techniques and principles. See Grice, 151 S.W.2d 211; McCormick on Evidence at §330; Giannelli & Imwinkelreid, Scientific Evidence at §1-2.

> Once a scientific principle is sufficiently established, a court may take judicial notice of the validity of that principle. Similarly, a court may take judicial notice of the validity of the technique applying that principle. In either case the effect is the same: judicial notice relieves the offering party of the

> burden of producing evidence on these issues.

Giannelli & Imwinkelreid, Scientific Evidence at §1-2.

In making inquiry into the reliability of the theory underlying the HGN test and the technique, we take judicial notice of legislative facts.

> Legislative facts are those which help the tribunal to determine the content of law and policy and to exercise its judgment or discretion in determining what course of action to take. Legislative facts are ordinarily general and do not concern [only] the parties.

Weinstein & Berger, Weinstein's Evidence at ¶200[03]. By examining scientific articles outside the record of the instant case, we can determine what course of action to take with regards to the reliability of the HGN test.[1] The facts contained in those scientific articles do

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[1] We are not prevented, as the dissenters would have it, from consulting those scientific articles merely because they were not cited by either of the parties at trial or on appeal. Nor need we consult the parties

not concern only the parties to the instant case, and are therefore "legislative facts" within the contest of this opinion.

In contrast to legislative facts are adjudicative facts. Adjudicative facts are "facts about the particular event which gave rise to the lawsuit and, like all adjudicative facts, . . .[help] explain who did what,

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before taking judicial notice of the contents of those articles. Two of the foremost authorities on judicial notice, John Monahan and Laurens Walker, have stated that:

> Courts are not limited to the case precedents contained in the parties' briefs and are not required to remand for further hearings to develop a record in which case precedents can be introduced. Likewise, they should not be limited to the briefs or required to remand to obtain scientific research.

J. Monahan and L. walker, Social Authority: Obtaining, Evaluating, and Establishing Social Science in Law, 134 U.Pa.L.Rev. 477, 497 (1986).

when, where, how and with what motive and intent." McCormick on Evidence at §328. The scope of Texas Rule of Criminal Evidence 201 is limited to judicial notice of adjudicative facts. See Tex.R.Crim.Evid. 201.

Judicial notice, both of adjudicative and legislative facts, may be taken on appeal. See Chapa v. State, 729 S.W.2d 723, 728 n.2 (Tex.Crim.App. 1987); Grice v. State, 151 S.W.2d 211; see also McCormick on Evidence at §333.[2] As we noted in

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[2]We note that the United States Supreme Court, in United States v. Leon, 104 S.Ct. 3405 (1984), relied upon the technique of judicial notice to gain access to important facts which formed the basis of that decision. In Leon, the Court cited a series of social science articles concerning the effects of rule on the criminal justice system, most of which were the result of the Court's in the exclusionary dependent investigation. The conclusion of those articles, that the exclusionary rule has a significant negative impact on the rate of prosecutions and convictions of felony arrestees, was an essential element of the court's decision to create a good faith exception to the warrant requirement. See also Brown v. Board of Education, 74 S.Ct. 686

Chapa, "[t]hat the [judicially-noticed fact] was neither proven nor judicially noticed below is of no moment." Chapa, 729 S.W.2d at 728 n.3. According to one commentator:

> The taking of judicial notice of a fact outside the record is part of the inherent power and function of every court, whether a trial or appellate tribunal. Whether an appellate court will take judicial notice of a fact on appeal which was not noted by the trial court, or called to that court's attention, rests largely in the discretion of the appellate court.

G. Currie, Appellate Courts Use of Facts Outside of the Record by Resort to Judicial Notice and Independent Investigation, 1960 Wis.L.Rev. 39. Therefore, our status as an appellate court does not prevent us from

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(1954); Roe v. Wade, 93 S.Ct. 705 (1973); Monahan & Walker, Social Authority, at 486, citing Federal Rule of Evidence 201, Advisory Committee Note (courts should be free to initiate an independent search for legislative facts and to take judicial notice of whatever they find).

inquiring into the general validity of the HGN test and the theory upon which it is based.

(b) Analysis

Nystagmus is defined as an "involuntary rapid oscillation of the eyeballs in a horizontal, vertical or rotary direction." R. Berkow, ed., The Merck Manual of Diagnosis and Therapy 1429 (1992). Horizontal gaze nystagmus is a variety of nystagmus that occurs when an individual's eyes are deviated to the lateral extreme. V. Tharp et al., Nat'l Highway Traffic Safety Admin., U. S. Dep't Transp., Development and Field Test of Psychophysical Tests for DWI Arrest 82 (1981); see also C. Rashbass, Barbiturate Nystagmus and the Mechanisms of Visual Fixation, 183 Nature 8897-98 (1959). Smooth pursuit eye movements are "slow, conjugate movements the enable the eyes to maintain a clear view of an object moving across the visual

field." J. Stapleton et al., Effects of Alcohol and Other Psychotropic Drugs on Eye Movements: Relevance to Traffic Safety, 47 J. Stud. on Alcohol 426, 427 (1986).

The effect of alcohol on nystagmus, specifically HGN, is well-documented.[3] See Id.; G. Good & A. Augsburger, Use of Horizontal Gaze Nystagmus as a Part of Roadside Sobriety Testing, 63 Am.J. Optometry

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[3]Nystagmus occurs as a result of the vestibular-optokinetic system, which operates to focus on vision by adjusting in response to head movement. The sensory receptors of the eye respond to the angular acceleration which occurs during head movement. The otoliths of the inner ear respond to the linear acceleration which also occurs during head moment. The combined result of the responses of the sensory receptors and otoliths is an involuntary muscle movement, nystagmus. Alcohol magnifies the reflexes of the vestibular-optokinetic system that cause nystagmus, by impairing the normal ability of the oculomotor system to suppress the responses of the sensory receptors and otoliths, resulting in an earlier onset of nystagmus int he angle of gaze and pronounced nystagmus at maximum lateral deviation. Stapleton et al., Effects of Alcohol and Other Psychotropic Drugs at 427-28.

& Physiological Optics 467, 467 [sic] (1986); I. Lehtinen et al., Acute Effects of Alcohol on Saccadic Eye Movements, 63 Psychopharmacology 17, 21 (1979); Stapleton et al., Effects of Alcohol and Other Psychotropic Drugs at 427-28; G. Godung & R. Dobie. Gaze Nystagmus and Blood Alcohol, 96 Laryngoscope 713, 713 [sic] 1986). Consumption of alcohol has also been found to effect smooth pursuit. See I. Wilkinson et al., Alcohol & Human Eye Movement, 97 Brain 785 (1974; Lehtinen et al., Quantitative Effects of Ethanol Infusion at 74; Stapleton et al., Effects of Alcohol and Other Psychotropic Drugs at 427. Nystagmus may also be caused by factors other than alcohol, such as other drugs, neurological disorders, or brain damage. Goding & Dobie, Gaze Nystagmus and Blood Alcohol

at 716; see also R. Leavitt, Horizontal Gaze Nystagmus, Voice for the Defense, Vol. 22, No. 9, at 17, 18-19 (1994).

The HGN test was developed in the late 1970s by researchers at the Southern California Research Institute. See Tharp et al., Development and Field Test. The Institute developed a sobriety test battery consisting of three tests: the HGN, the walk and turn, and the on-leg stand. Id. NHTSA has since concluded that the HGN test is the singlemost effective field sobriety test in determining whether an individual is alcohol-impaired. Nat'l Highway Traffic Safety Admin., U. S. Dep't Transp., Improved Sobriety Testing 1 (1984)

The pamphlet used in Texas to train officers to administer the HGN test is DWI Detection and Standardized Field Sobriety Testing (1992), published

by NHTSA. According to that pamphlet, an officer must look for the following three criteria in the HGN test: 1) an inability to pursue smoothly an object, or stimulus, moving sideways across the suspect's field of vision; 2) distinct, or pronounced, nystagmus at the eye's maximum horizontal deviation; and 3) an angle of onset of nystagmus of less than or equal to 45 degrees. DWI Detection at VIII-13. The officer must look for these criteria in each eye, for a total of six "clues." Id. at VIII-15. In order to ascertain the existence of these clues, the officer moves a stimulus, such as a pen light, in front of the suspect's eyes. If the officer identifies four or more clues, then the officer classifies the suspect as intoxicated. Id. The testing procedure also calls for the officer to screen the suspect for factors such as corrective lenses, brain damage, medical disorders, or blindness, which could

lead potentially to an incorrect determination as to whether the suspect is intoxicated. Id. at VIII-14--VIII-15.

In Texas, police officers must complete an NHTSA-approved, State-sponsored training course to be certified to administer the HGN test and the other two tests comprising the sobriety test battery. Texas Commission on Law Enforcement Officer Standards and Education (TCLEOSE), DWI Detection and Standardized Field Sobriety Testing Practitioner Certification Requirements (1991) (on file with Texas Engineering Extension Service, Law Enforcement Training Division). The 40-hour course consists of 24 hours of classroom instruction and 16 additional hours of field evaluations. Id. Upon satisfactory completion of the classroom instruction, an officer receives "practitioner certification" to administer the sobriety test

battery. During the 16 hours of field evaluation, the officer must compete an document 35 test cases of administration of the test battery. Id. After completion of the 35 test cases, submission of the results, and approval by the Texas Engineering Extension Service, Law Enforcement Training Division, an officer receives "proficiency certification" from TCLEOSE. Id.

The accuracy of the HGN test has been estimated at various levels, depending on such factors as testing conditions and the ability and experience of those conducting the test. The United States Department of Transportation estimates that a properly-trained police officer should be able to classify correctly, with respect to legal intoxication, 77% of his test subjects if the officer classifies subjects who score four or more points on the test as legally intoxicated. Improved Sobriety Testing at 4. Estimations of the

accuracy of the HGN test have ranged as high as 88% under optimal conditions. See Tharp et al., Development and Field Test at 72.[4] Most commonly, however, use of the HGN test, by itself, has been found to result in a correct determination of intoxication approximately 77% of the time. See Good & Augsburger at 468. When the results of the HGN test are considered in conjunction with the walk and turn test, the accuracy of the HGN test is enhanced to approximately 80% correct classification of test subjects. See Improved Sobriety Testing at 1.

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[4]Tharp et al, concluded that examiners in a laboratory experiment involving administration of the HGN test were able to classify correctly 88% of participants with respect to the participants' levels of intoxication when the examiners based their determinations on the precise measurement of the angle of onset of nystagmus in the participants' eyes.

NHTSA has also produced a formula by which it maintains that HGN results may be used to determine a suspect's BAC through correlation of the angle of onset of nystagmus to a BAC level. Tharp et al., Development and Field Test at 29.[5] According to the results of a lab test conducted by the NHTSA researchers, however, estimations of BAC based on the angle of onset of nystagmus, using the NHTSA formula, varied by .03%, on the average, from the actual BAC. Id. at 62.[6]

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[5]According to the NHTSA researchers, Tharp et al., BAC can be estimated to within +/- .02% using the following equation:

Angle of onset = 51 degrees - (105 x BAC)

[6]In the NHTSA study, ten police officers from various law enforcement agencies in California performed the HGN test on 297 volunteer participants in the laboratory. The officers assigned BAC levels to the participants based on the perceived angle of onset of nystagmus in the participants' eyes.

(c) Other Jurisdictions

A number of courts from other jurisdictions have considered the merits of the HGN test and the admissibility of its results in DWI prosecutions. In State v. Superior Court, 718 P.2d 171 (Ariz. 1986), the Supreme Court of Arizona held: 1) the results of the HGN test could be used to establish probable cause to arrest a suspect for DWI and 2) the scientific principles underlying the HGN test and the technique used in the test both were reliable, in that they satisfied the standard of "general acceptance in the relevant scientific community." See Frye v. United States, 293 F. 1013 (D. C. Cir. 1923); Kelly v. State, 824 S.W.2d 568 (Tex.Crim.App. 1992).[7] The Arizona court also

[7]The Frye "general acceptance" standard received limited use by this Court in a number of cases in which the trials were held prior to the promulgation of the Texas Rules of Criminal Evidence. See Zani v. State,

held that HGN test results were admissible in a DWI prosecution only to corroborate the accuracy chemical test results when those results had been challenged by the defendant.[8] Finally, the court held that HGN results were not admissible, under any circumstances, as

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758 S.W.2d 233 (Tex.Crim.App. 1988); Reed v. State, 644 S.W.2d 479 (Tex.Crim.App. 1983). In Kelly, we concluded that the Frye standard is no longer part of Texas law, due to its displacement by Texas Rule of Criminal Evidence 702 and because the reliability of scientific evidence is not predicate upon its general acceptance within the "relevant scientific community."

[8]Under Arizona law, driving while intoxicated and driving under the influence are separate offenses. In a prosecution for the former offense, proof of a defendant's intoxication, in the form of chemical analysis of blood breath, or urine showing a BAC of 0.10, must be shown in order to obtain a conviction. See A.R.S. §28 art. 5. In a prosecution for the latter offense, no such proof is necessary for conviction, and therefore HGN test results are admissible to show that the defendant was "under the influence." State v. Superior Court, 718 P.2d at 182.

independent evidence to quantify BAC. State v. Superior Court, 718 P.2d at 182.

In State v. Bresson, 554 N.E.2d 1330, 1334 (Ohio 1990), the Ohio Supreme Court determined that the HGN test was a reliable indicator of BAC, and that HGN results were admissible "so long as the proper foundation has been shown both as to the officer's training and ability to administer the test and as to the actual technique used by the officer in administering the test." The court then opined that "although results on an HGN test may be admissible at trial by a properly trained officer, such an officer may not testify as to what he or she believes a driver's actual or specific BAC level would be, based solely on the HGN test results." Id. at 1336.

At least one court has decided that the HGN test is a reliable indicator of intoxication under the standard

provided by Federal Rule of Evidence 702.[9] State v. Murphy, 451 N.W.2d 154 (Iowa 1990); see also State v. Clark, 762 P.2d 853 (Mont. 1988). In State v. Murphy, the Supreme Court of Iowa could find "no reason to question the reliability of the [HGN] test . . .." Murphy, 451 N.W.2d at 158. The court concluded that "testimony by a properly trained police officer with respect to the administration and results of the [HGN] test is admissible without need for further scientific evidence." Id.

Other courts, when addressing the reliability of the HGN test as an issue of first impression, have classified HGN evidence as novel scientific evidence and have left the issue of the reliability of the HGN test to the trial courts. See State v. Witte, 836 P.2d 1110

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[9]Texas Rule of Criminal Evidence 702 and Federal Rule of Evidence 702 are identical.

(Kan. 1992); State v. Barker, 366 S.E.2d 642 (W.Va. 1988). In Witte, the Supreme Court of Kansas held that HGN results were scientific evidence, and as such would have to satisfy the Frye standard for admissibility. Witte, 836 P.2d at 1121. That court remanded the case to the trial court to determine whether the HGN evidence satisfied Frye. Id. The West Virginia Supreme Court in Barker reached virtually the same result, but also opined that estimates of BAC based on HGN test results were inadmissible, assuming the HGN test was found to be reliable. Barker, 366 S.E.2d at 646.

III. Reliability - Texas

(a) Theory

After consulting the literature concerning alcohol and its effects on human eye movement, and considering case law from other jurisdictions

addressing the reliability of the HGN test, we conclude that the theory underlying the HGN test is sufficiently reliable pursuant to Texas Rule of Criminal Evidence 702. The scientific materials addressing the issue have reached the uniform conclusion that the consumption of alcohol has a cognizable effect on human eye movement. We believe that the accuracy of those sources cannot be reasonably questioned.

(b) Technique

We also conclude that the technique employed in the HGN test, as designed and promoted by NHTSA, is reliable pursuant to Rule 702. See Improved Sobriety Testing. In this jurisdiction, officers who administer the HGN test receive standardized training in its administration. When administering the HGN test, those officers must follow standardized procedures as outlined in the DWI Detection manual

published by NHTSA. The test procedures, as outlined in the manual, require an officer to screen for factors other than alcohol that potentially contribute to, or cause, nystagmus, such as other drugs, neurological disorders, and brain damage, prior to administering the HGN test.[10] Therefore, we determine the technique employed in the HGN test to be a reliable indicator of intoxication. We take judicial notice of the reliability of both the theory underlying the HGN test and its technique.

We are unable to conclude, however, that the HGN technique is a sufficiently reliable indicator of

[10]None of the materials which we have consulted indicate that nystagmus may be caused by a minor head injury or concussion, such as the injury appellant asserts she received as a result of her collision. In any case, appellant apparently does not argue that her performance on the HGN test was affected by her asserted head injury.

precise BAC. Given the results of NHTSA's lab experiment, resulting in an average margin of error of .03%, and the dearth of other published writings on the accuracy of the NHTSA formula and technique, we cannot take judicial notice of the reliability of the HGN technique within the context of determining precise BAC based on the angle of onset of nystagmus.

(c) Application

Finally, we determine, pursuant to the third prong of the Kelly analysis, that the HGN technique was applied properly on the occasion in question. After examining the record in this case, we conclude that the HGN technique, as prescribed by the United States Department of Transportation and the State of Texas, was followed by Officer Trevino in his examination of appellant. Trevino's testimony indicated

that he followed the procedures as outlined in the DWI Detection manual.

IV. Proper Scope of HGN Testimony

We must determine the proper scope of testimony concerning the HGN test. In determining the proper scope of testimony concerning the HGN test, we consider the opinions of the highest courts of Arizona and Ohio on this issue. See State v. Superior Court, 718 P.2d 171(Ariz. 1986); State v. Bresson, 554 N.E.2d 1330 (Ohio 1990). In each of those cases, the respective courts determined that, although testimony by a police officer concerning HGN test results was admissible as evidence that the defendant was under the influence of alcohol, a police officer would not be allowed to testify as to a defendant's exact BAC based on the HGN results alone. Superior Court, 718 P.2d at 182; Bresson, 554 N.E.2d at 1336.

For testimony concerning a defendant's performance on the HGN test to be admissible, it must be shown that the witness testifying is qualified as an expert on the HGN test, specifically concerning its administration and technique. In the case of a police officer or other law enforcement official, this requirement will be satisfied by proof that the officer has received practitioner certification by the State of Texas to administer the HGN. A witness qualified as an expert on the administration and technique of the HGN test may testify concerning a defendant's performance on the HGN test, but may not correlate the defendant's performance on the HGN test to a precise BAC. In the instant case, the record indicates that Officer Trevino did not attempt to quantify appellant's exact BAC based on her performance on the HGN test.

A witness may not use the HGN evidence to quantify the defendant's BAC. We have already concluded that we are unable to take judicial notice of the reliability of the formula and technique advocated by NHTSA to determine BAC based on angle of onset of nystagmus. NHTSA's own study indicates a margin of error of .03% when its formula is used to determine BAC level based on the angle of onset. That margin of error is too high to allow estimations of a defendant's BAC based on the angle of onset to be admissible. In addition, the State has other means available for quantifiable proof of a defendant's BAC in a DWI prosecution which are much more effective and reliable, such as the blood test, breathalyzer and urine test.

V. Application of Rule 403 Factors

We must next determine whether Officer Trevino's testimony concerning the HGN test results, though reliable and relevant, was nevertheless inadmissible for some other reason. We must inquire whether Officer Trevino's testimony concerning the HGN test results, though relevant, would have been unhelpful to the trier of fact. Nothing in the record indicates that a danger of unfair prejudice confusion of the issues, misleading of the jury, undue delay, or presentation of cumulative evidence existed with respect to the HGN testimony at appellant's trial. We conclude that the trial court's decision to admit the testimony was proper. Therefore, we hold that the court of appeals did not err in holding that Trevino's testimony concerning appellant's performance on the HGN test was admissible at her trial.

The judgment of the court of appeals is AFFIRMED.

Campbell, J.

DELIVERED APRIL 13, 1994.
EN BANC
PUBLISH.
MILLER, J., DISSENTS.

NO. 0204-93

SHARON LEE EMERSON Appellant	§ §	Appellant's Petition for Discretionary Review from the Thirteenth Court of Appeals
V.	§	
THE STATE OF TEXAS, Appellee	§ §	[Nueces County]

DISSENTING OPINION ON APPELLANT'S PETITION FOR DISCRETIONARY REVIEW

Today the majority takes judicial notice that evidence of the results of the horizontal gaze nystagmus (HGN) test meets the criteria of Kelly v. State, 824 S.W.2d 568 (Tex.Cr.App. 1992), governing admissibility of scientific or specialized evidence under Tex.R.Cr.Evid., Rule 702, and is thus admissible in a prosecution for driving while intoxicated. From what the majority says it may well be that, when the time comes, we should hold that HGN evidence is

admissible. By reaching that question in this case, however, for the first time on petition for discretionary review, the majority has relieved the State, as proponent of the HGN evidence, of its ordinary burden of establishing at trial that evidence it has proffered is relevant in the first instance, under Tex.R.Cr.Evid., Rules 401 and 402. I therefore dissent.

As a preliminary matter, I must point out that the majority misconstrues the court of appeals' holding in this cause. The majority believes that holding to be that Officer Trevino's testimony as to the administration and results of appellant's HGN test was admissible as lay opinion evidence. Were that the case, I would fully endorse the majority's holding today that HGN testimony is not admissible as lay opinion, but may come in, if at all, only under the criteria announced in Kelly. But by the same token, if the court of appeals

did not reach the question whether Trevino's testimony was admissible under Kelly, I do not see how this Court can reach that question for the first time on petition for discretionary review. This Court reviews "decisions" of the courts of appeals. E.g., Lee v. State, 791 S.W.2d 141 (Tex.Cr.App. 1990). At best, if Kelly was raised below as a basis for admissibility but neglected by the court of appeals, we might appropriately remand the cause for that court's consideration of the issue in the first instance. Otherwise, once it is determined in this Court that the evidence was inadmissible as lay opinion, that should end the matter.

However, I do not understand the court of appeals' opinion to hold that Officer Trevino's testimony was admissible as lay opinion testimony. The court of appeals did "note" that a pair of sister courts had

disposed of "similar challenges" by holding that HGN testimony may come in as lay opinion. Emerson v. State, 846 S.W.2d 531, at 533 (Tex.App.-Corpus Christi 1993). But the court of appeals here disposed of appellant's contention "that Trevino did not have the medical background and expertise to testify about what the eye movements meant and what the results might have meant[,]" by holding that the trial court did not abuse its discretion to allow Trevino to testify "as an expert." Id., at 532 & 533. Thus, although the court of appeals did not cite Kelly, it addressed at least nominally the same issue, viz: what testimony is admissible as expert opinion under Rule 702.

I agree, then, that the issue whether Trevino's testimony was admissible as expert opinion is properly before us. But I vehemently disagree that we may take judicial notice for the first time on discretionary review

of predicate matters that Kelly requires to be established in the trial court before certain kinds of expert testimony may be admissible. In Kelly itself we summarized our holding to be that "under Rule 702 the proponent of novel scientific evidence must prove to the trial court, by clear and convincing evidence and outside the presence of the jury, that the proffered evidence is admissible." Id., at 573 (emphasis added). Today, it is a majority of this Court that holds for the first time in this cause that the predicate theory that intoxication affects HGN in certain ways is sufficiently well documented that the results of an HGN test can come in under Rule 702. With all due respect, when it comes to novel scientific evidence, unless the predicate theory has been established in the trial court, the trial judge has not basis to conclude the evidence is even relevant, under Rules 401 and 402, must less

that it "will assist" the jury under Rule 702. See Kelly v. State, supra, at 574-75 & n.1 (Clinton, J., concurring). Under these circumstances he errs to admit the evidence over valid objection. See Tex.R.Cr.Evid., Rule 705(c).

By taking judicial notice of the predicate theory for the first time on discretionary review, the Court relieves the proponent (here, as in Kelly, the State) of what the Court admits is novel scientific evidence of its ordinary burden to establish the relevance, and hence admissibility, of that evidence under Rules 401 and 402, and, perforce, Rule 702. Kelly v. State, supra; Rule 705(c), supra. Cf. Montgomery v. State, 810 S.W.2d 372, at 387 (Tex.Cr.App. 1991) (Opinion on rehearing on Court's own motion) (proponent of evidence must satisfy trial court that extraneous offense evidence has relevance apart from character

conformity). In thus relieving the State of an ordinary burden, the Court abandons impartiality and interferes unduly with the adversarial trial process. In short, the Court deprives appellant, at the appellate level, of due process and due course of law!

The Court cites Grice v. State, 142 Tex.Cr.R. 4, 151 S.W.2d 211 (1941), for the proposition that our status as appellate court does not prevent us from taking judicial notice of the theory behind HGN evidence for the first time on discretionary review. I perceive no invasion of the adversarial process in Grice, however, such as that which the majority now invokes Grice to justify.

It is true enough that in Grice the Court took judicial notice of, inter alia, the theory underlying what was at the time fairly novel scientific evidence. Canvassing judicial opinions from this state and a

number of other jurisdictions, we judicially noticed that the probability is infinitesimal that any two individuals possess identical fingerprints. But the issue in Grice was not admissibility of fingerprint evidence. Indeed, the Court seemed quite satisfied that a showing had been made by the State's expert that the underlying theory behind fingerprint identification was sufficiently reliable that such evidence would constitute relevant evidence. Instead, the issue in Grice was whether admittedly relevant fingerprint identification evidence could be, by itself, sufficient evidence to support a jury verdict. In essence, the Court took judicial notice of the conclusiveness of fingerprint identification, at least where the evidence showed nobody but the accused had been in a position to leave fingerprints at the scene of the crime. In deciding this question the Court undoubtedly rehashed much of the same sort of

information the jury must have heard from the State's expert in laying the predicate, at trial, for admissibility. And in fact the Court ultimately opined, in essence, that future trial courts could judicially notice the reliability of the theory underlying fingerprint identification, based upon our own observations in Grice. Id., S.W.2d at 221. What cannot be said of Grice, however, is that we used principles of judicial notice to relieve the proponent of the novel scientific evidence in that case of the burden to establish the relevance, and hence usefulness, of that evidence in the trial court. Yet that is precisely what the Court does today, on authority of Grice.

The Court also purports to rely upon several evidentiary treatises for the proposition that judicial notice is in fact designed to relieve the offering party the burden of establishing that a novel scientific theory

is a reliable one. It seems clear to me from examining the most pertinent of those treatises, however, that in context it does not contemplate that the offering party should be relieved of this burden in retrospect, at the appellate level. It seems instead to suggest it is appropriate to relieve the offering party of the burden of establishing that the theory behind novel scientific evidence as a matter of judicial notice of an adjudicative fact, in the trial court, as is ordinarily the case under Fed.R.Evid., Rule 201, and our own state analog, Tex.R.Cr.Evid., Rule 201. See P. Gianelli & E. Imwingelried, Scientific Evidence §1-2, at pp. 2-6 (1993). This way the parties themselves are permitted the chance to debate the propriety of taking judicial notice of a particular fact; whether, for instance, the source or sources of the information which the proponent wants to be judicially noticed are in fact

unimpeachable, or at least sufficiently beyond question as to justify relieving him of this burden. This is not an insignificant question when it comes to novel scientific evidence, as, if nothing else, Kelly should make abundantly clear. Yet appellant has had no opportunity to address this question. Perhaps that is why the majority does not address it either. In fact, by taking judicial notice at this late date, the majority conveniently avoids any of the pesky obstacles characteristic of an ordinary adversarial proceeding, such as input from the party who stands to lose by that action.

I had thought that the principle behind our adversarial system was that by allowing counseled participation by all interested parties, in an adversarial proceeding before a neutral tribunal, we could bet achieve both fairness to the litigants an the greatest

likelihood of arriving at the truth. Cf. Morrison v. State, 845 S.W.2d 882 (Tex.Cr.App. 1992); De Freece v. State, 848 S.W.2d 150 (Tex.Cr.App. 1993). In its haste to announce a "right result" vis-a-vis the issue of the admissibility of HGN evidence, the majority cuts off party participation and abandons judicial neutrality, sacrificing fairness for its own unilateral perception of the truth. To this distortion of the adversarial system, as well as our own discretionary review process, I respectfully dissent.

CLINTON, Judge

(Delivered: April 13, 1994)
EN BANC
PUBLISH

NO. 0204-93

SHARON LEE EMERSON	§	
Appellant	§	Appellant's Petition
	§	for Discretionary
	§	Review from the
V.	§	Thirteenth Court of
	§	Appeals
	§	
THE STATE OF TEXAS,	§	[Nueces County]
Appellee	§	

DISSENTING OPINION ON APPELLANT'S PETITION FOR DISCRETIONARY REVIEW

Appellant contends the trial judge erred in admitting novel scientific evidence, namely the results of a horizontal gaze nystagmus (HGN) test.[1] Because the majority relieves the State of the burden of proving the reliability of that test, I respectfully dissent.

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[1]Appellants ground for review states:

The Court of Appeals erred in finding that the results of the horizontal gaze nystagmus test were admissible.

I.

THE INSTANT CASE

Arturo Trevino, a Corpus Christi police officer, testified he attended a three-day school to become certified to administer the HGN test. Through his training, Trevino was taught to observe "very distinct jerking of the eyeball" [R. 20] because, as Trevino testified:

> . . .when you look to the right and you are sober you have control of your muscles so your eye doesn't really jerk even though it wants to come back to the front wherever you are facing towards, so when you are intoxicated you cannot control your muscles that well, well then the eye jerks more because of the intoxication because they want to come back and look straight towards the front.

Trevino was dispatched to the scene of an automobile accident involving appellant. Suspecting appellant was intoxicated, Trevino asked appellant to

perform several sobriety tests including the HGN. Appellant's eyes were unable to smoothly follow Trevino's pen, distinctly jerking prior to a forty-five degree angle and jerking at their maximum deviation. In Trevino's opinion, appellant's performance on the HGN test indicated appellant was intoxicated and did not have the normal use of her mental and physical faculties.

On cross-examination Trevino admitted the HGN test was not 100% accurate, and that he had never worked as a medic. He did not check the dilation of appellant's pupils and had never talked to anyone who had suffered a concussion.[2]

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[2]The pupils of an individual with a head injury are frequently dilated and/or have different reactions to light. B. Bullock; Pathophysilogy Adaptations and Alteration in Function, 3rd ed. 1988, pp. 1041-1043.

II.

KELLY V. STATE

The issue presented is the admissibility of the results of a horizontal gaze nystagmus (HGN) test. The admissibility of such novel scientific evidence is controlled by Kelly v. State, 824 S.W.2d 568 (Tex.Cr.App. 1992). In Kelly, the State sought to introduce DNA "fingerprint" evidence. Kelly contended such evidence was no generally accepted as reliable by the scientific community and was, therefore, inadmissible under Frye v. United States, 293 F. 1013 (D.C.Cir. 1923). We rejected the Frye test and held Tex.R.Crim.Evid. 702 governed the admission of such evidence. Under Rule 702:

> . . .the trial court's first task is to determine whether the testimony is sufficiently reliable and relevant to help the jury in reaching accurate results.

Kelly, 824 S.W.2d at 572. In order for a scientific theory to be reliable we held the evidence must satisfy all of the following criteria:

(a) the underlying scientific theory must be valid;

(b) the technique applying the theory must be valid; and,

(c) the technique must have been properly applied on the occasion in question.

Id., 824 S.W.2d at 573. See also, Tex.R.Crim.Evid. 705. Finally, we held the proponent of such evidence had the burden of proving, by clear and convincing evidence, that the evidence was reliable. Kelly, 824 S.W.2d at 573 (quoting Zani v. State, 758 S.W.2d 233, 243 (Tex.Cr.App. 1988)).

In Kelly, the State met this burden by presenting extensive evidence of the reliability of DNA evidence at trial. Id., 824 S.W.2d at 570. However, unlike Kelly, in

the instant case the State presented no evidence concerning the reliability of the HGN test. The majority recognized the absence of this evidence stating, "[i]n the instant case . . . the trial court made no such inquiry concerning the admissibility of the HGN evidence pursuant to Rule 702. . ." Majority Op., ___ S.W.2d at ___, slip op. pg. 6. Because of this lack of evidence, the majority resorts to judicial notice in order to relieve the State of its burden or proving the validity of the scientific theory underlying HGN testing and the validity of the techniques applying the theory Further, the majority does this without providing the parties the opportunity to brief or argue the reliability of the HGN test.

III.

A.

JUDICIAL NOTICE

Black's Law Dictionary defines judicial notice as:

> The act by which a court, in conducting a trial, or framing its decision, will, of its own motion, and without the production of evidence, recognize the existence and truth of certain facts, having a bearing on the controversy at bar, which, from their nature, are not properly the subject of testimony, or which ar universally regarded as established by common notoriety, e.g., the laws of the state, international law, historical events, the constitution and course of nature, main geographical features, etc. . . .The cognizance of certain facts which judges and jurors may properly take and act upon without proof, because they already know them.[3]

BLACKS LAW DICTIONARY 986 (4th ed. 1968). The doctrine of judicial notice has been described as

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[3]All emphasis is supplied unless otherwise indicated.

> . . .one of common sense. The theory is that, where a fact is well known by all reasonably intelligent people in the community or its existence is so easily determinable with certainty from sources considered reliable, it would not be good sense to require formal proof.

1 Texas Practice §151 at 192 (3rd ed. 1980).

A trial judge may take judicial notice of a public law of this state, federal laws, a county's population, the court's jurisdiction, and his own orders, records or judgments. See, Ex parte McCullough, 416 S.W.2d 420 (Tex.Cr.App. 1967); Legg v. State, 594 S.W.2d 429, 432 (Tex.Cr.App. 1980); Plaster v. State, 567 S.W.2d 500, 502 (Tex.Cr.App. 1978); Lucas v. State, 86 S.W.2d 638, 640-641 (Tex.Cr.App. 1935); De La Garza v.State, 579 S.W.2d 220, 223 (Tex.Cr.App. 1979); Leyva v. State, 552 S.W.2d 158,163 (Tex.Cr.App. 1977); and, Victory v. State, 158 S.W.2d 760, 763 (Tex.Cr.App. 1942). A trial judge may also

take judicial notice of certain historical events, geographical matters, the intoxicating effect of certain beverages and the operations of certain types of businesses. Ex parte Britton, 382 S.W.2d 264, 265 (Tex.Cr.App. 1964); Keener v. State, 456 S.W.2d 912, 914 (Tex.Cr.App. 1970); Parrack v. State, 228 S.W.2d 859, 861 (Tex.Cr.App., 1962); and, Carter v. State, 203 S.W.2d 540, 543 (Tex.Cr.App. 1947).

However, judicial notice is not the equivalent of personal knowledge and judicial notice may not be takenof matters not known generally. See, Jackson v. State, 157 S.W. 1196 (Tex.Cr.App. 1913). Judicial noticemay not be taken of the laws of another state or a city ordinance. See, Plaster, 567 S.W.2d at 502; Wickware v. Session, 538 S.W.2d 466, 469 (Tex.Civ.App.-Tyler, 1976); Cole v. State, 556 S.W.2d 343, 345 (Tex.Cr.App. 1977); Peach v. State, 498

S.W.2d 192 (Tex.Cr.App. 1973), and, Patton v. State, 16 S.W.2d 1072 (Tex.Cr.App. 1929). We have held:

> . . .Where a court is authorized to take judicial cognizance of matters, it is held that this power must be exercised with caution, and care must be taken that the requisite notoriety exists, and every reasonable doubt upon the subject should be promptly resolved in the negative.

Bland v. State, 59 S.W.A 1119, 1120 (Tex.Cr.App. 1900).

Furthermore, it is inappropriate to use judicial notice to satisfy the State's burden of proof. Johnson v. State, 269 S.W.2d 393, 394 (Tex.Cr.App. 1954). In Johnson, the State failed to prove venue and asked this Court to resort to judicial notice in order to satisfy the State's burden. We rejected the State's request and stated:

> Unless we can consider an uninitiated interlineation in the statement of facts, proof of venue must rest on judicial notice that the trial was held at Wheeler (the County Seat of Wheeler County), and that a point from one to four miles from Wheeler, on the highway leading toward Pampa, was in Wheeler County.
>
> The courts should not be called upon to rely upon such evidence when the proof is available to establish that the place where the offense was committed was in Wheeler County.

Id., 269 S.W.2d at 394.

In Urban v. State, 387 S.W.2d 396 (Tex.Cr.App. 1965), the State charged Urban with engaging in the business of bookmaking which required proof that Urban committed three acts of bookmaking within one year preceding the indictment. Art. 652a, §2, Vernon's Ann. P.C. The State introduced a copy of Urban's indictment and offered no further proof. Urban, 387 S.W.2d at 397-398. Anticipating the introduction of the

indictment was not sufficient, the State contended the date of Urban's indictment was within "judicial knowledge." We disagreed and held:

> The State earnestly insists that the doctrine of judicial notice applies in this case and that the indictment as read shows the acts to have been committed within less than one year prior thereto. The state says that judicial notice takes the place of proof and is of equal force and that the evidence is sufficient to support the conviction. However, the record here does not reflect that the Court took judicial notice. No request was made that the Court judicially notice the indictment or anything else. The [trial judge] did not indicate that it had judicially noticed the indictment, nor certainly was there a showing that the [trial judge] instructed the jury to consider the indictment under the doctrine of judicial notice. We doubt that it would have been proper for a [trial judge] to have judicially noticed a vitally contested bit of imperative proof, such as the three essential dates in the indictment, anyhow. We think the state was relegated to proof and should have and could have adduced evidence pertaining to these dates without relying upon the indictment.

Urban, 387 S.W.2d at 398.

B.

In support of its decision to resort to judicial notice, the majority purports to rely upon Grice v. State, 151 S.W.2d 211 (Tex.Cr.App. 1941), and Chapa v. State, 729 S.W.2d 723 (Tex.Cr.App. 1987). However, neither case is on point.

In Grice we considered whether fingerprint evidence was alone sufficient to sustain a conviction.[4] Although we took judicial notice of the development of the science of fingerprint identification, the record also spoke to the issue. Grice, 151 S.W.2d at 217. At trial, the State presented expert testimony concerning the

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[4]This in itself distinguishes Grice from the instant case. While in the instant case we are asked to determine the admissibility of novel scientific evidence, the admissibility of fingerprints as circumstantial evidence of guilt had "long been held. . .admissible. . ." Grice, 151 S.W.2d at 222.

theory behind fingerprint identification and the procedures used to identify Grice.[5] The State's expert witness was cross-examined extensively on the theory behind fingerprint identification and we had the benefit

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[5]We stated:

> In view of the history given in the record before us of the development of the science of identification by fingerprints and the claim made that no two persons have identical ridge formations, and in view of the known progress made in this science following the development of methods for taking finger prints, for their classification and for general use now being made of this science by our government, as well as that of many other governments, we have thought it essential at this time to review the decisions of other courts of our nation, both state and federal, in order to determine the judicial recognition now given to this science and thereby form a definite and certain policy and rule for the recognition which this court shall give to it.

Grice, 151 S.W.2d at 217.

of a well-developed record on which to base our decision.[6]

In the instant case Trevino presented the only evidence concerning HGN testing. Trevino's testimony only addressed the procedures he was taught at a three day school on HGN testing and the procedures he followed in testing appellant. The record is silent as to the scientific basis or reliability of HGN testing. Therefore, Grice is distinguishable from the instant case.

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[6]We stated:

> In the instant case the witness who testified in behalf of the state was ably cross examined by an attorney for appellant who showed himself to be well versed in the science and who has greatly assisted this court by making a thorough and intelligent record by the manner and efficiency of his examination. . .

Grice, 151 S.W.2d at 211.

In Chapa we considered whether an individual has a reasonable expectation of privacy in a taxicab. Chapa, 729 S.W.2d at 726-727. Chapa testified he held such an expectation. To determine what expectations are recognized and permitted by society, Rakas v. Illinois, 439 U.S. 128, 99 S.Ct. 421, 430-431, n. 12 (1978), we recognized that several municipal codes throughout Texas recognized a passenger's exclusive right to the passenger compartment of a taxicab. Chapa, 729 S.W.2d at 728. The majority apparently feels our recognition of a municipal code in Chapa amounted to judicial notice of such codes. However, our acknowledgement of the municipal codes was, as it was in Grice, simply on additional matters which we consulted to aid in our review of the record

and the issues presented.[7] Id., 729 S.W.2d at 728. Chapa still held the burden to introduce evidence of his expectation of privacy.

In Chapa, we discussed the difference between judicial notice of an adjudicative fact and a legislative fact. Chapa, 729 S.W.2d at 728, n. 3. An adjudicative fact is a matter which must be proved. Judicial notice of an adjudicative fact must occur at trial and in accordance with Tex.R.Crim.Evid. 204. However, a legislative fact is one of social concern which assists an appellate court in interpreting the constitution. The expectation of privacy generally recognized by our

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[7]Were the majority's action today extended to Chapa, the defendant would have no burden to object to the admission of evidence seized through a warrantless search or to present evidence in support of a motion to suppress such evidence. These matters could be judicially noticed. Clearly this was not our intent in Chapa.

society is a legislative fact and may be within the judicial knowledge. Id.. However, in the instant case, the reliability of an individual scientific test is an element which must be proved. Kelly, supra. Thus it is an adjudicative fact.

IV.

Through the doctrine of judicial notice, the majority incorporates such evidence into the record as it deems necessary to satisfy the State's burden for the admission of a "vitally contested bit of imperative proof." Urban, 387 S.W.2d at 398. The majority fails to cite and I can find no authority where this Court utilized judicial notice to satisfy a party's burden of proof regarding the admissibility of evidence. Such action directly conflicts with Urban, 269 S.W.2d at 398, and Johnson, 269 S.W.2d at 394. The State has demonstrated no reason why an expert witness could

not testify, and be cross-examined, on the reliability of HGN testing. Had the State done so, the record would be similar to that in Grice, and we would be justified in reviewing the scientific literature and cases from other jurisdictions to assist us in our decision. However, such is not the case and the State has wholly failed in its burden of proving by clear and convincing evidence that the underlying scientific theory behind HGN testing was valid and that the technique in applying the HGN test was valid as required by Kelly, 824 S.W.2d at 573. See, Part II, supra. Consequently the majority errs in resorting to judicial notice.

V.

APPLICATION OF HGN TEST

Even if it were appropriate to take judicial notice of the validity of the underlying scientific theory and techniques employed in the HGN test, the record does not establish that Trevino properly applied the techniques in the instant case. This is the third criteria of determining reliability. Kelly, 824 S.W.2d at 573. See, Part II, supra.

The majority took judicial notice of DWI Detection and Standardized Field Sobriety Testing (1992), published by NHTSA, Majority Op., ___ S.W.2d at ___, slip op. pp. 9-10, as the standards adopted to train Texas officers in the HGN testing. Id., ___ S.W.2d at ___, slip op. pg. 14. Reviewing that manual and Trevino's actions in the instant case, the majority "concluded[s] that the HGN technique, as prescribed

by the United States Department of Transportation and the State of Texas, was followed by Officer Trevino in his examination of appellant." Id., ___ S.W.2d at ___, slip op. pp. 14-15. I disagree.

The standards adopted by Texas for HGN testing include an assessment of possible medical impairment and checking the suspect's pupil size. DWI Detection, at VIII-14. See, n.2, supra. This is required because a nystagmus may be caused by brain tumors, brain damage, or some diseases of the inner ear. Id. at VIII-12. The manual cautions:

> NOTE: Nystagmus may be due to causes other than alcohol. These other causes include seizure medications, phencyclidine inhalants, barbiturates and other depressants. A large disparity between the performance of the right and left eye may indicate brain damage.

Id., VIII-15. Further, the standards require that officer note any condition which might impair the

suspect's ability to perform an HGN test. In addition to medical impairment, the manual lists other factors such as "wind, dust, etc. irritating suspect's eyes," or "numerous visual or other distractions impeding the test." Id., at VIII-22.

In the instant case Trevino did not check the size of appellant's pupils. Trevino testified that he did not recall whether appellant was bleeding but she did not complain of any injury. The extent of Trevino's assessment for medical impairment was to ask appellant "if she was all right" on six or seven occasions. When questioned about the necessity of repeating the question, Trevino responded "[s]he had been involved in an accident, sir." Trevino was not a medic and had no experience with persons who had suffered a concussion. Though the record clearly reveals that appellant had been involved in an

automobile accident and appellant testified she hit he head in the accident, there is no evidence that Trevino attempted to screen for any of the factors which Trevino might impact on appellant's performance on the HGN test.[8] Therefore, Trevino did not properly apply the HGN testing procedures, Kelly, 824 S.W.2d

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[8]The majority states:

> None of the materials which we have consulted indicate that nystagmus may be caused by a minor head injury or concussion, such as the injury appellant asserts she received as a result of her collision. In any case, appellant apparently does not argue that her performance on the HGN test was affected by her asserted head injury.

Emerson, ___ S.W.2d ___, slip op. pg. 14, n. 8. However, the State holds the burden to demonstrate that the techniques employed by Trevino are those which have been found reliable and adopted by Texas. Further, the reliability of HGN testing was not before the trial court and therefore appellant had no opportunity to demonstrate the effect of her injuries on her HGN performance. Through the doctrine of judicial notice, the majority precludes appellant from attacking the reliability of such testing.

at 573, and the majority errs in approving the application of HGN testing in the instant case.

VI.

CONCLUSION

I agree that the time has come for the Court to determine the admissibility of the HGN test. And in a proper case I may join the majority in holding that HGN evidence is admissible as a circumstance indicating intoxication. However, such a determination should be made only after the parties have had the opportunity to present evidence both for and against HGN testing and the trial judge has had the opportunity to rule on the evidence. See, Kelly, supra.

With these comments, I respectfully dissent.

BAIRD, Judge

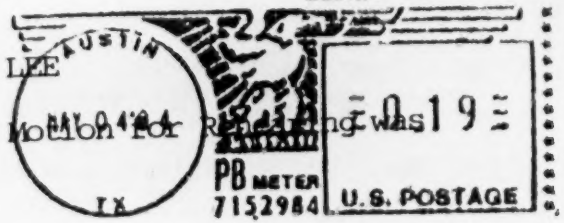
Overstreet, J., joins this opinion.
(Delivered April 13, 1994)
En Banc
Publish

May 4, 1994

OFFICIAL NOTICE
COURT OF CRIMINAL APPEALS

COA#: 13-92-00039-CR

RE: Case No. 0204-93
STYLE: EMERSON, SHARON LEE



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On this day the Appellant's Motion for Rehearing was denied.

Thomas Lowe, Clerk

COURT OF CRIMINAL APPEALS
P.O. BOX 12308, CAPITAL STATION
AUSTIN, TEXAS 78711

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OFFICIAL NOTICE
COURT OF CRIMINAL APPEALS

May 31, 1994
COA#: 13-92-00039-CR

RE: Case No. 0204-93
STYLE: EMERSON, SHARON LEE

On this day, the appellant's motion to stay mandate has been granted. The mandate has been stayed until 8-18-94.

Thomas Lowe, Clerk

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